

# The National Geographic Magazine

AN ILLUSTRATED MONTHLY



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VIEW FROM HOYT ISLAND, LOOKING ACROSS HUTTON STRAIT TO HELM ISLAND  
Moose Mountain (a), Langley Hill and Dwyer (b)



VEGETATION ON SOUTH SLOPE OF HOYT ISLAND, AUGUST 15, 1932

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No. 1

THREE WEEKS IN HUBBARD BAY, WEST GREENLAND

By ROBERT STEIN,

*United States Geological Survey*

In 1884 I published a plan of Arctic exploration from a base near Jones sound, proposing first to trace the west coast of Ellesmere land and afterward to explore the triangle between Ellesmere and Grinnell lands on the east and the Parry islands on the south. That field was declared by General Greely to be the one in all the Arctic "that promises the largest results with the least amount of labor and danger." Lieut. Julius von Payer declared that the spot selected for the base was "the most suitable" and the plan "thus far the best imaginable." Numerous weighty authorities concurred in this opinion, especially Lieut. Peary, who called the plan "one of the safest, most promising, and cheapest, avoiding hurry, and permitting the utilization of experience." As now planned, the expedition would cost \$5,000.

Failing to secure the requisite funds, I decided, by Lieut. Peary's advice, to undertake a preliminary trip to Greenland in order to gain the experience in Arctic exploration which in his opinion would be of most essential service in securing financial support. Through the kind assistance of the late Hon. Gardiner G. Hubbard, President of the National Geographic Society, as well as of Major J. W. Powell, Director of the Bureau of American Ethnology; Prof. S. P. Langley, Secretary of the Smithsonian Institution, and Mr C. D. Walcott, Director of the U. S. Geological Survey and of the National Museum, I was enabled to take advantage of Lieut. Peary's invitation to accompany him





years ago, so far as he can estimate. How much farther north they had gone he could not tell. Thus the remains found by Ryder were of unusual interest, as representing a stage when the man was unaffected by civilization, except, perhaps, that of the

early Norsemen. To collect such remains was my main object. As Lieut. Ryder sent a collection to the Ethnographic Museum at Copenhagen, I feared that nothing of note would be left at the sites he had touched, and therefore asked Mr. Peary to land me at Cape Malm, the north end of Hubbard bay.

With three Eskimos from Upernivik, I was landed on August 10 on a headland supposed to be Cape Malm, the dense fog preventing accurate orientation. From the top I perceived next morning that I was on the island next south (which I have called Hoyt island), separated from Cape Malm by a channel five miles wide, filled with icebergs. As soon as the fog had lifted I prepared to row over to Cape Malm, but when we reached the west end of Hoyt island and saw before us the wild chaos of rapidly moving icebergs, the Eskimos, thoroughly frightened, refused to row farther, even for triple pay. Lieut. Peary had urged me to listen to the Eskimos' advice in regard to ice and wind, and I recognized that under no circumstances must I fail to keep my appointment to meet him on September 1, because such failure would subject him to the inconvenience of having to search for me in those unknown and ill-reputed waters of Melville bay. Accordingly, after ten minutes' parley, finding that their apprehensions were real, I turned back.

I now decided to make a thorough exploration of Hoyt island as the type of a group. The island consists of four mountain masses, the highest about 1,000 feet, separated by deep valleys. Except on the storm-beaten western peninsula, which seemed entirely bare, the southern slopes, where not too near the perpendicular or too smoothly glaciated, are covered with the ordinary Arctic vegetation, blueberries, crowbarrier, grasses, heather, poppy, dwarf willow, dwarf birch, and an abundance of moss, forming carpets into which the foot sank up to the ankle. Everywhere the soil was sliding down in great, black, wavy avalanches, held together by the tough, peaty fiber, so that plants were often seen growing from vertical or even overhanging surfaces. The summits and the north flank, a succession of nearly vertical cliffs, are almost entirely bare of vegetation. In the shelter of many cliffs lay long snow banks (opos), hard as ice, offering considerable resistance to the knife, yet evidently not of many years' growth, since a hollow space beneath them bore witness to active melting. The tinkle of little streams could be heard in many places, but only at one point was there a watercourse sufficiently definite to be called a brook. The summits and sides, where not



TUNDRA WITH BIRCHES, HURT HAY

too steep, were strewn with glacial boulders, different from the bed-rock, though eruptive, with the exception of three conglomerates. Glacial striae were seen on the northeast summit. The whole island is scarred by frost fissures. Many of the projecting pinnacles are weathered into fantastic forms and surrounded by a conical talus of glittering rhombic crystals. In many places the talus formation was so active as to overwhelm the vegetation. Nine freshwater lakes, the largest about 20 acres in extent, were seen, some in the valleys, others on the level summits. They were the favorite resort of the red-throated diver, always seen in pairs, but no other life was observed in them. The life in the sea was exceedingly abundant. Seals were seen nearly every day; older ducks (*auzet*) in long lines, each numbering perhaps five hundred, were paddling over the water with rhythmic ockle; each cove was alive with little auks (*aeppok*), handsome in their coat of black, white, and red, their thin, piping voices seeming curiously out of proportion to the size of the bird. The air was alive with gulls and terns. Wherever the depth of water permitted, the bottom could be seen completely covered with vegetation. Long strings of kelp, when drawn out of the water, were found to harbor quite a fauna of crustaceans and mollusks. A piece of bone thrown into the water would be covered with

shrubs in a few moments. No reindeer were seen, but shed antlers testified to their occasional visits. The snow bunting and ptarmigan found abundant food in the blueberries and crowberries. The blueberry bushes were fairly alive with little black spiders. Several specimens of a hairy caterpillar and of a large fly were secured. Bears had left records of their visits in numerous seal houses, but were not seen, having gone away with the floe-ice.

The same description applies to most of the land in the vicinity. On Inugsulik, the island next east, I found the cairn marking Ryder's farthest north. Great volcanic fissures, 20 to 100 feet wide, between vertical walls, traverse that island in all directions. Being for the most part level-floored, they afford easy thoroughfares for travel. The level floor is evidently due to glacial action, being formed of debris, sometimes angular, sometimes rolled so as to resemble a collection of cannon balls. Successive terminal moraines have converted several of these avenues into stairways. Though much higher than Hoyt island, Inugsulik's summit also is boulder-strewn. A brook dashes down its west side, large enough to be impassable near its mouth.



CAIRN BUILT BY ARCTIC WILDS IN 1887 ON HILLSIDE NEAR ENTRANCE NORTH OF HUBBARD BAY. PHOTO TAKEN BY THE AUTHOR ON THE 21ST

both from Ilavik and from Inagalik I had a fine view

glacier with a front of 10 miles, ending off at some 100

feet above the sea. In a stately procession to the glacier of the ice was a half a mile. Far above the glacier, a prominent Mount Peppers lifted his black head out of the inland sea. Long crevasses on each side showed that the peak was part of a precipitous wall, over which the ice crept in a cascade several miles long.

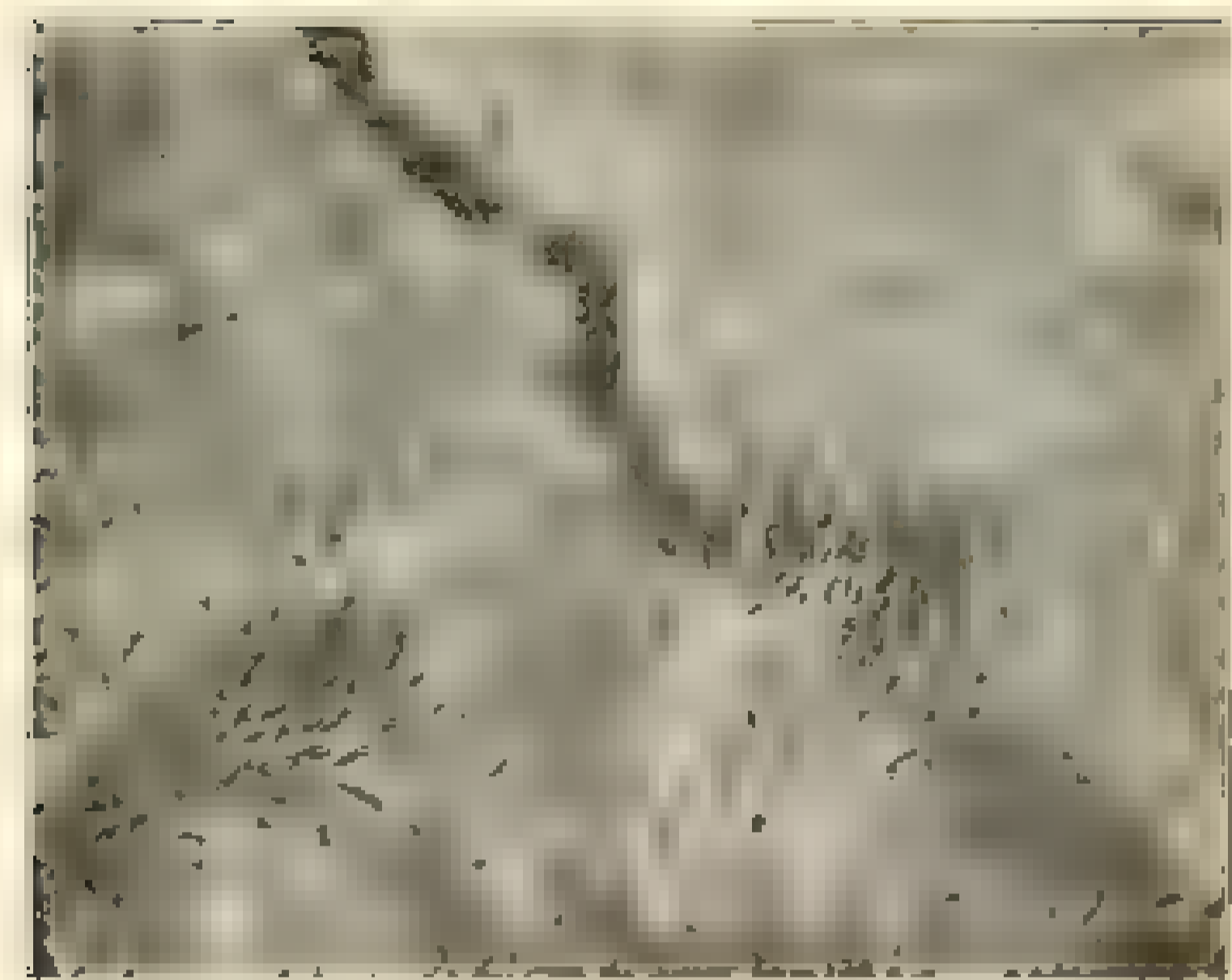
On Whidbey Island, at the center of Hubbard Bay, I found at last the main object of my quest. Examining the shore, there were two houses beside a little lake on a low rocky spur projecting westward, but the main settlement was at the east end, in a most picturesque place, and a good deal of the best green of the Alaskan vegetation. Like the Carlingford, these ancient Indians live in outer and inner houses separated by a ledge of rocks, over which the tide flows in and out. The inner and outer were complete circles, about 20 feet in extent. A low ledge of rock protected the bays on the east, and the north were the ranges and so deep the bays that the water must be many feet higher in the deepest part than at the bay end directly over the entrance. On a level space between the two bays was the

and along the foot of the hills. Directly behind was a fresh-water lake, brown with decaying matter, but a mile to the larger lake, some 20 feet higher was clear and pure. A few graves were also found on the south side. No traps were sent

eight, but to the inner bay harbor, the easy anchorage the low, level platform, the freshwater lake with a narrow stream, a fine example of such a small bay of an inlet, the most have seemed a

it was seen to consist of a black mass, thickly studded with masses of white water, snowed, and so. As the tide rose the percentage of white water began to rise, the more of these elements so far as I could judge, the more and more had for a red and

relatives on that side. The rocks and the sea and the red humans had given rise to a rich vegetation of grass and moss, which had deeply buried the rocks so that some of them could



may be traced by the quality of the soil. The soil is sandy, and the surface of the ground is usually a shallow, irregular, and uneven one. In some places, however, there are small mounds of earth, which are the remains of old graves. These mounds are usually about 10 to 20 feet in diameter, and are composed of sand and gravel. The mounds are usually found in the center of the beach, and are often surrounded by a low wall of sand. While I was engaged in the task of exploring the beach, I found many of these mounds, and in some cases, I found the remains of old graves. In one case, I found a small mound of earth, which was the remains of a grave. The mound was about 10 feet in diameter, and was composed of sand and gravel. The mound was surrounded by a low wall of sand, and was situated in the center of the beach. The mound was the remains of a grave, and was the only one of its kind that I found.

In the middle of the beach, one of the two low islands of White Island, the graves had been opened, probably by the natives. The bones were scattered about 10 feet from the water's edge, but the rock was not even washed away. I was at first disposed to attribute this to an accident, but when I saw the bones, I was convinced that the whole mass of sand and rock was slowly being moved.

Many remains were found on Porter Island (and several others) at White Island, and the Japanese saw others on the

Wapiti Falls - Two or more cascades on the Kootenai  
the north side of Wapiti river which I did not see. In  
1904 it is further south.

high. This would seem to indicate early Norse influences and add to the interest of the people.

We don't use Ekelund's word "stagnating" studies.

One of the males was a black of the parent type, with no trace of red type of winged blood, was on slight as to be microcephalic. The parents, though dark by the head and eyes, were as white as the other 5 to 6 pairs. It is the same type of parent type, but the

the whole population is being rapidly Americanized, so that in a few generations we shall have to cure as much of a practically Anglo-American kind of the Great American as the old-time mission, yet speaking of the old-time people, have

in vague" languages, in which an example is used as right as a  
proof by the prover. It is *epistemic logic*. Some of the young  
people would pass for best class with me. I had at least the  
impression that struck me as the one I could not understand  
was the case, and the others of the young of a

Received: 14 June 2017; Accepted: 17 July 2017; Published: 18 July 2017

And as you hear them from the lips of entered persons - a soft, almost, human, expression, with no outward changes, but

an + vol. no. Their peculiar "r" appears like the Persian (the word *Arzrak* is often spelled *Arzrak*) it imitates the phonon.

It did not give pleasure to ask knowledge any, or willingness to learn. Peary for burden to assistance, for varying kindness and to record my great fortune at having been an eye witness of his triumphs and—a model of foresight, resource, energy, fortitude, patience, and concentration. In these qualities he perceives the secret of a successful achievement and the guarantee of an enduring success, and so it must of me Peary in 1898.

In naming features of a new River left, named "Lower Left," to serve a new purpose, by using the names of some of the first great associates of a National University, at Washington. This may be doing good to the present and the public to which it was dedicated, as the only thing needed to preserve its memory.

Washington Jackson and Associates Inc. 1000 First Street of the  
 10001 San Jose

Admission granted, for President E. B. Andrews, Edward A. Mervin, General Chairman for ex-governor John Lee Carroll, General President of the Society of Friends of the Freedmen's Movement.

Contribution (Mk) for each T-C combination is expressed as a percentage of the mean

Dr. Roy Jay C. Allen, Charles W. Felt, Jr., ex Assistant Secretary of Agriculture, President of the University of Tennessee

246. A polynomial for each data has been found. The maximum of each fitted

Let us now assume, for then we get  $F \cap E = \emptyset$ , i.e.,  $E \subseteq F^c$ . So we get:

Free 1st, Sat. Mail. Weights: P. Free, U.S. Senator.

For Mr. J. for Hon. Mr. with W. Fuller Chief Justice of the Supreme Court of the United States

enough elements, for  $H_{\text{odd}}(A, \mathbb{Z})$  is a direct sum of copies of the cyclic group  $\mathbb{Z}_2$ .

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114000000, Dr. Frederick W. Loomis, University of Chicago

Transmit to, for Hon. W. T. Harris, U. S. Commissioner of Education, at

Sworn by me at, for Hon. J. W. R. Hunter, U. S. & notary

Michael Phillips, Jr. is Vice President of a Florida

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of the National University Committee.

[illegible]

Our construction, for  $16m + 8$  and  $16m + 9$  is due to C. de Seguier.

- Jordan Island, for Capt. John D. Jordan, (Cornell) University  
Kane Island, for Hon. John A. Kasson, ex U. S. Minister to Austria  
and Germany  
Kyle Island, for Hon. James H. Kyle, U. S. Senator  
Langley Mt. for Hon. S. P. Langley, Secretary of the Smithsonian In-  
stitution  
Morse Mt., for Prof. W. J. Morse, Ethnologist in Charge, Bureau of  
American Ethnology  
Noyah Island, for Hon. Simon Newcomb, of American Naval Academy  
, for Dr. W. L. G. Forster, ex President of the U. S. Academy of  
Natural Sciences, President of the 4th American Medical Congress  
Pond Mt. for Major J. W. Powell, Director of the Bureau of Geo-  
graphical Names, ex Director of the U. S. Geological Survey  
Ponce Island, for Gen. Emory Porter, U. S. Ambassador to France  
Poulin Island, for Hon. Asa Pond and Hon. C. S. Pond  
R. Anderson Island, for Mrs. John A. Richardson, President of the Century  
Association, New York Academy  
Rocky Island, for Dr. John Clark Hutton, Phil. of the Acad.  
Sciences, U. S. A. for Hon. John Sherman, Secretary of State, ex U. S.  
Senator  
Smiths peninsula, for Col. William H. Smith, Kentucky University  
Stroms Island, for Hon. Charles A. Sumner, ex U. S. Minister to Turkey  
Vance Mt. for Hon. William F. Vance, ex Secretary of the Interior, ex  
U. S. Senator  
Wasson peninsula, for Hon. C. D. Wasson, Director of U. S. Geologi-  
cal Survey  
White Island, for Hon. Arthur D. White, U. S. Minister to Germany  
ex U. S. Minister to Japan  
Wilson Island, for Hon. William L. Wilson, ex Postmaster General  
President of Washington and Lee University  
Wright Lake, for Hon. Charles D. Wright, U. S. Commissioner of Labor

In addition to these, the following names were suggested as appropriate

- Admiral Johnson and Kaitumaq, for the two young Swedish explorers  
who were lost in an attempt to reach Kileseve Island in 1891. The  
two peaks were named by them in 1891  
Mount Carter, for Lieut. Carter, of the Danish Navy, the first explorer of  
this island bay. The peak is the highest that he sighted from his  
position north  
Mount Cooper, for Mr. Albert Cooper, the "Arctic artist," who accompanied  
Lieut. Peary on two expeditions. A cairn erected on the peak by  
Prof. Hall in 1893 was named after Mr. Cooper. The peak was pre-  
viously called by the Tanoluk by Baker. The real David's Peak is  
in Alaska only  
Cass Bay, for Prof. Hall, of the Cornell party of 1886, who ascended Mount  
Cooper, overlooking this bay  
Tarr Bay, for Prof. Tarr, the leader of the Cornell party

## THE SAMOAN COCONUT\*

Samoa, the Navigators Islands of the old geography is a volcanic group, consisting of four principal islands, lying between 1° and 1½° S. latitude and 168° and 173° W. longitude.

Upolu Island and Savaii. Upolu is the single part of the group, the most westerly island, is much the largest, 45 miles in length by 25 in breadth. Upolu, 12 miles to the east (140

150 miles in length by 5 miles in breadth.

and other co-exports, was \$50,000; of the total exports (which amounted to \$218,500). The single exportable

which will be business today and must for the future be produced, is the coconut (Cocos nucifera). It is to Samoa what cotton and corn are to the United States; all that grows, needs and wood are to the Australian colonies. The export of the coconut is the main element of the coconut alone, even with trading and the approximate exception, represents the or are agricultural products.

and a commercial ring into these islands is very. Were the coconut crop to absolutely fail for a single year, the entire volume of export of this Kingdom for that year would not be a great

needs

to them, the native Samoans have a tradition of a year concerning

\* This article, compiled by Miss A. H. Brown, is composed mainly of extracts from the interesting and valuable report on Samoa made by the Department of State by Consul General James H. McLean and published in 1899. *Report*, vol. 21, pp. 2-47.

parts of the body, and it is so light and so easy to be hung on a stick and across the shoulders or conveniently carried in the

big the neck, and it is so easy to consume the meat. One of the virtues produced by removing the "eyes" seems as the mouth of the natural jug, which is remarkably light, strong, and durable, and has been highly favored by the natives

for the necessity of developing the art of pottery making. Although so convenient in many ways, this type of water vessel is not easily found, particularly in a shallow stream or spring.

The natives have invented a neat device, by which this difficulty is easily overcome. The method is as follows: a person goes to the spring carrying with her a cup made from the stem end of a coconut shell, with one of the "eyes" removed, so as to transform it into a funnel. Then she dips it into the water with her finger over the aperture, then holds it over the neck of the coconut jug, removes her finger and pours the stream into the carrying vessel.

These natives use a pair of coconut jugs as the coconut funnel have well established names in the Singan language, and these names apply to no other objects, while the utensils are never made of other material than coconut shell. Now according to the tradition, a village some years ago was built near the spring for water. When supplied with her water it found and a resting the stream in to the coconut vessel she perceived a smaller, shadowy object in the water, and was so entranced by its beauty that she went to carry it home in the funnel cup and preserve it as a pet and her sole possession to do. As time passed, the creature grew, and it became necessary to remove it to larger and larger receptacles, until finally it became a terrible monster tormenting and destroying the people. So the people gathered round it in a protest of abhorrence to the water supply of the village with a unanimous heritage that it became intoxicated and slept. Then they cut off the monster's head and to prevent retaliation of the monster upon whom the creature should awaken, removed it to a distance and carried it away in the earth. Their crime was done and remained when some time later the earth swelled

gravidly in proportion as it grew in its infancy. And this long and painful was the first coconut tree.



it can be made just its shipowners as to either a vessel or charter both ways, to the great reduction of freight charges. It found us that

in a measure the monopoly it once conspicuously enjoyed, to the disadvantage of smaller shipowners.

Copra is simply the meat of the coconut, dried in the sun, generally by being spread on mats, until the greater part of the watery juice is evaporated. For time purposes the rule is to throw it dry when it is as hard as the white flour, or kernel which comes from the nut, as due to the thickness of these sheets of a 1/2 inch or more, reaches that degree of hardness found in copra now sold at the fruit stores in the United States. At Uasin

in the green stage is described

When a certain demand for coconut oil first began to appear, the

method of drying the green coconuts to stand exposed to the sun in various triangles, as it were—until the heat and density set the oil free to collect at the bottom, to be afterwards strained.

No oil has been so shipped for a great many years and the one method for extracting the oil mechanically was not a profitable venture. Anywhere could not be had here, and the transportation of coconuts was for oil too expensive. The other look-

great. For many years the oil cake obtained from coconut was

as a food for cattle, but later it has fallen into disrepute, the only use remaining that it is productive of kerosene oil if not of

price of copra. It was formerly estimated that the sale of the oil cake paid the cost of the freight on the bulk copra.

the Bab el Jebel to San Francisco. The oil is used to some extent by oil mixtures as a lubricant, but its chief use is for fuel in

country to become much more important which has not been entirely overcome in a serious manner to its employment in many places, and precludes its use in the transportation of the

better grades of soap, for, free of water as it may be at first, its impregnation by salt is apt to become soon manifest. The bulk of copra, especially when stored in bulk or in soap made to order, is not unagreeable to the prevailing character.

The accepted method of water culture is to plant the cocoons, etc. in rows 40 feet apart, setting the trees 20 feet in the row. The

years were required after they came in to learning to show that the planting had been done too closely. The nuts were small,

provement of the field. The encounter of all the ages forces the sapling to and free circulation of the air. However, to flourish in water it should stand on the outer verge of the water, its roots striking into the sea water, its branches or palms ever

its habitat close to the sea, where the salt-impregnated air can reach it freely and abundantly. Like some other members of the vegetable kingdom—for instance, clover—it seems to take a

hold at the high temperature of the tropics and saturated with the sea moisture of the sea. The commonness of the creature of the sandstone and the sea that it clearly manifests its nature, in fact in a collection of smaller nuts. The low walls of the beach on all these islands are more or less covered with the

The smaller size of the trees and the poorer yield are clearly to be noted in what a transition of from 10 to 100 feet, situated at an short a distance as 20 and 30 miles from the shore.

over the water; growing in sand, it points its leaning ever to the point of rest was to the sea.

clusters close in and around the stems of the palm branches, which spread about on all sides and rose upward from the clustered base forming the top of the tree. The nuts were lowest upon first, the young nuts commonly a, pear-shaped, and the growth of the tree and so the lower branches wither and decay, the air away as the younger branches pass out from above. The body of the tree from the ground to the crown is the top, a distance ranging up from 30 to 100 feet frequently to



Wants to go on, and the saplings are sustained. We have not found it convenient for a long time to go on and find the certain result when the tree becomes old. The surface of the cut has become uneven and the surface is not so regular as it was. The tree is not so long as it was and the weight of the sapling is not so great as it was. The tree is not so long as it was and the weight of the sapling is not so great as it was. The tree is not so long as it was and the weight of the sapling is not so great as it was.

The last of the season is the most difficult time for the saplings. The saplings are not so long as they were and the weight of the sapling is not so great as it was. The saplings are not so long as they were and the weight of the sapling is not so great as it was. The saplings are not so long as they were and the weight of the sapling is not so great as it was. The saplings are not so long as they were and the weight of the sapling is not so great as it was. The saplings are not so long as they were and the weight of the sapling is not so great as it was.

The value of the coconut is a very important export product. The tree and its fruit are devoted to many uses. The wood of the coconut is very porous and spongy, having consequently a great degree of resistance to water. It is used for many purposes and is very valuable for all purposes for which posts are employed. The oil of the coconut is also very valuable and is used for many purposes. It is used for many purposes and is very valuable for all purposes for which posts are employed. The oil of the coconut is also very valuable and is used for many purposes. It is used for many purposes and is very valuable for all purposes for which posts are employed.

The last of the season is the most difficult time for the saplings. The saplings are not so long as they were and the weight of the sapling is not so great as it was. The saplings are not so long as they were and the weight of the sapling is not so great as it was. The saplings are not so long as they were and the weight of the sapling is not so great as it was.

making it important in the order mentioned. The rules are entered in the soil, but not without length, continuous state, before they reach the ground & condition to which they are familiar to the American people, where they are both palatable and exceedingly nutritious. But what it has been said, they are, of course, to be looked upon as the chief elements of a sustenance.

In the evening they enter into the preparation of many other articles, the chief object of which is "pa-ke-ent," a most delicious preparation. The water of the lake is used for it, at the station it comes to. Several who are conversant with it declare that it sports out of the sea during periods of drought, and forms a pleasant and wholesome drink, as good for a country as it is for the city. The water comes, from what is said, from a spring revealed by lightning, first to destroy and then by being shaken a long time left off and with coarse sand, it rises to an unusual water without cut in half they are made to furnish and drinking cups. The fact, as has been said, it renders as the sea rock or bearded stone and no other is used. The leaves of the great branches, which dry in water, are used for kindling, for torches in the night and for small fires in a small bowl of burned clay set in the floor of every house as a fire, and, when required, fuel with those long and pointed leaves, crushed, and when he felt it to be somewhat, of a change and that the fire kind. Again, the great ends of long long reeds are tied together in squares, and the huts being that of a honey, they are hung over the sides of the roofs of houses and serve all ready to hold the thatch in place against fire, with a small these branches by a stick as it were, are supported down either side and some placed into baskets, treated and placed much in the same way they are made from the bark of, or made properly strong, by which all houses are covered and protected.

Were the convention free by some instructive idea, it is from the point at a stroke and expectations end and it would be a thing, a thing, a way as the people adjust itself to meet the situation.

It is possible by the method that we have described to yield when the trees have reached the period of full bearing, about half a ton of commercial sugar. As in such a short agricultural season, in which the sugar tree remains so stably at a constant weight, certainly it is the one that can be recommended to the grower and home day producer plantation. In all instances and even be it said to the satisfaction of the sugar planter, why

The estimate first of labour for a green coconut—its dry shell or *tupe*—is to which shrinkage—in weight and loss before some years past, in spite of a considerably diminishing supply—amounts, I estimate, to about 1000 lbs. for 1000 trees. If the estimate of profit for a green coconut good, this ought to yield £14.75 per acre. In regard to the other side, however, the yield is at about £12 per acre, possibly the greatest difference as such things go. It will be observed that it does not allow for labour.

When about attempting to reconcile the apparently conflicting facts, it is said that a tree is at the average "worth" a penny a year—that is, yields a profit to that amount. I built up in the manner I have mentioned, an acre would carry about thirty-eight trees, and if these yielded the estimate of £14.75 each, or £561.10 in all, the remuneration of £12 per acre profit would be up to well earned. However the estimate may be right, however exaggerated they may be if any—and I am disposed to think, like all similar estimations, they are more encouraging in every particular in a practical way—they at best can only show a greater profit per acre than the ordinary coconut—not those of one year's yield—may be somewhat exaggerated as any of the eastern tropical States is acquainted with. As a matter of fact a very average crop of 1000 trees in any of the States growing the coconut, would produce more profit than do the local coconut groves of the Pacific Islands or the banks of rivers. True, the trees once planted now produce for long and the bulk of the ordinary foliage, etc. of the *Lumnitzera* species mentioned are to be seen in every cultivated year after year. On the other hand, many fruitless years elapse without the first 100 trees to reach maturity. Even so, in a country where wages are high, because even if the coconut is not used as a source of any of the profits for "making money" it is at least a slow and laborious process, as though there is but a single plant to be raised or cultivated. There is no doubt much to be learned from the way in which the expense of raising coconut trees is met.

Copra is cut and only made, as the natives report, from about the middle of April till the middle of October or early part of November—that is, during the dry season. But the tapping is more active in July, August, and September. During months of rain, so far as the supply of coconuts goes, there is the remainder of the year, but the rain, varying from frequent to almost constant, is a great deal of drying.

A boy or man, generally a foreigner, with a piece of cord about 18 inches or longer looped on each foot would climb the

is under way, it goes with as much ease and facility as if it were a ladder. The rounded or corrugated surface of the bark, left where branches have at times grown, from the ground up, and, as the top of the net between the feet, where the weight of the body hangs downward slants, as it were, the hollow of the armpits feet firmly on either side of the trunk. By this means the tree is ascended. My persons of jingpo, as it were.

In some of the southern provinces where opium taxes are levied in return for the supposed protection afforded by European nations which have annexed them, a boy is accounted as having become a man, liable to the payment of taxation tax when he is able to climb a tree.

The collector was a large knife, cut away the natural nuts were collected about the sides of the cranberries. As they fall they are cut into large pieces about the base of the tree. In the plantations they are gathered into panniers hanging on poles or on poles, hanging on poles, borne by two men after the style in which the boxes were carried with ease over the path.

It is a mountain by the two little Chinese men on the side of one of our grand mountains - the first of the great mountains near the Chinese. The nuts are at first the thick outer husk having become hard and brown like wood. They are eaten as they are by an axon - the hard white flesh is more delicate as well as with a large knife. No longer as it is cut to eat it is cut into small pieces. When cut it is taken into a bowl in the shed where it remains until it is taken to be laboriously carried, sack by sack, by wading out in the small boat, where it is then transferred to the small schooner or either by going in a boat or water, or, from the water turn it is again taken to be stored somewhere or transferred to the deep sea vessel for its final voyage.

Cocaine is perhaps a greater percentage of it than any other of the great alkaloids, and, as it is modern powder, it is not as it is mixed with water, heated, or subjected to two pressures, giving as high as 62 and 64 per cent of pure oil.

The annual crop of last year (1884) was by far the largest ever known. The main crop for this, I know, is not so good as the previous years of great abundance and loss of some production, as it is understood. The yield of last year is all the

partments the subject of the present in a western district of the

island, known as Apia. It is estimated that, despite the reduction in production on the coast, which is attributed to a drought, while the export of copra in 1891 amounted to 4,812 tons, in 1892 to 4,851 tons, and in 1893 to 4,942 tons, it rose last year to 5,244 tons, an increase of 1,112 tons over the year before, and a decrease of about 1½ per cent over the years 1891 and 1892, year under the reduction of 1 in years 1891, 1892, and 1893, the being also the country as much in 1891 as in 1892 the far smaller crops of former years.

Copra is bought from the natives, who make and sell it in stone quarries, as well as it is now almost entirely for cash—copper, brass, beads, etc., but also for food and other necessities. It is sold to the natives, and is rarely sold, but part cash is often paid, and sometimes the price is required in money. In the trading stations in some islands, and in trading stations, the natives pay for their goods, but frequently, the natives being paid at once, the trader could not expect to make a profit for his principal, as he is generally an agent, the owner of the vessel. The cost price was made as well as he regarded it as a loss in the United States as well as in the United States. In Apia, with its competition of several stores and shops, dealers, prices are far more reasonable, although they are far from being such as to threaten the dealers with bankruptcy. From the political situation now existing, and which, with some demands has endured for the greater part of three years, the natives of many of the most productive districts are not so much as last year in Apia, and many are thrown back in buying and selling upon the country trade. Of course, in the end of the goods and commodities for sale, and from the way to Apia, so that in the end it is seen as to be a loss, and a loss of money; yet the situation is distressing, and the local

trade is much affected. With the natives as are in the very extensive to have at times in the last few years, which they keep at, placed from central stores, and the prices of goods of all kinds is very satisfactory, and it is not unlikely that some of them will be able to find a way out of the situation, and will not find, in a quiet way, as they may be able to contribute to the local market.

Copra is sold at a low price as they have done for a few years past, \$1.25 to natives and \$1.50 to white men, who sell it for more, but generally to the natives. The traders insist that the natives, and the natives too, are too poor to be able to pay for it. They do not think that the weight may be greater. To produce the same

against such imposition, as a set form. It may have their scales set to keep out the ignorant over the set formula of sale, but set with a set of false weights—go exactly the latter—for the natives would be weighed with known over as reported by an experienced. I have found the same very commonly done, but it should be with a better and some known to exceptions.

Recently in a trial made to see whether or not between a firm of this place and one of the agents it was shown that the latter had furnished the agent along with the scales, a set of correct and a set of false weights. This, of itself, was a very great surprise or advantage to the agent while the revelation of the fact was regarded as a passing.

The commerce in the American coast between the natives and foreign nations was shipped to the United States in 1891 or 1892. In 1893 the value of exports shipped to San Francisco amounted to \$1,500, in 1894 to \$300,000, and the value of goods shipped to the same port for the year ended June 30, 1895 was \$1,450. Every steamer for the destination port now takes a shipment of goods by this ship and transportation is made at a high freight rate. But only so many vessels are cleared from this port for any American port in a year. By far the greater number of the goods from the coast from the Australian coast, many reasons can be given to produce the result. Were there sufficient and regular trade from San Francisco to the port and the coast, and vessels could afford to carry goods on the return voyage at such a rate as would not by increasing the shipment of goods to the port to America; for steam rates on the coast are not so low as they are elsewhere, and the result is the same.

The latest prices (1895) from Liverpool, late goods at \$5.50 per ton. This is the right to be used for comparison, and a reference is expected to \$15 or \$20 per ton, and these latter figures are thought to fairly represent the present real value. The price has never before reached so low a figure. During 1894-71 the price was about \$115, as late as 1880 it was from \$75 to \$85, and with more, with occasional increases. This is not the only case, but the same is the case with the figures stated.

The freight to England, about \$1,200 per ton, to San Francisco, to which is a point is a reference to a trade, \$10 by steam and from \$5 to \$8 by sail, when the few opportunities occur. From the coast and places similar situated elsewhere can be found at least a few more. In the case of the prices

## THE MODERN MISSISSIPPI PROBLEM

\$25 or \$60 per ton, carriage was free & paid and the price paid by traders in Asia was 24 to 25 cents per pound including

freight. 1878 and the next years have elapsed. During all these years millions of tons of cotton have been sent to America and are coming, and thousands of tons of cotton in early January were greatly increased the next year. As has been said, the crop of last year (1894) was the largest in the history of the island, amounting to a total stated to 6,244 tons and yet an official report made to the United States Government in 1898 gives the export for that year as 6,775 tons, which is a fact that is still true, and is greatly in excess of half the quantity. The same report estimates the cotton crop at 2,000,000 bales. Such is a sample of the unreliability of the statistics which have so much troubled the world as to this group, upon which must be so many interests and many of the essential motives as to their future.

## THE MODERN MISSISSIPPI PROBLEM

By W. J. McLean

The great river of the continent has been the great artery of the continent for many centuries and of modern civilization for half as long. The earlier inquiries related chiefly to the river as a means of transport and navigation, and the problem of interior water transport in America has wrought itself out largely on this river and its tributaries. The history of the solution of the problem is significant of its bearing on the future history and civilization.

The success of the Louisiana Purchase and the progress of the pioneer were followed by the discovery of "flatlands" which marked the entrance of the river to the interior of the continent and before long the construction of a canal to the coast grew up, of the "long flatlands" and the upper waters, having then a small, poor, and old or primitive, flat, up to date with the current. New Orleans, one of these, maintaining them, while the ship was returned overland. About the end of 1811 the first practical and successful waterway was built, up to the Mississippi and across a water during its first voyage in consequence of the New Madrid earthquake, but

when steam navigation was established and the river became a route for commerce and profit carrying freight and passengers generally

be it more or less rapidly as with it. There began a policy of flood of the Mississippi as a line of commercial activity; towns were, and are, along the upper river and along the delta, and especially near the confluence, Columbus, Hickman, Vicksburg, Cairo, and Natchez. Natchez, Baton Rouge, Port Hudson, and a dozen other towns whose names are half buried or sprang up except to river-side and prominent to some metropolitan, while the passenger

is American agent. He gave nothing better, no change and a quick way to collect to replace the interruption of traffic by building of levees between lower water stages and the main current.

swift and sure the report on the river made commerce began to decline relatively if not absolutely, a large part of the river towns were deserted by the stream; a quarter were abandoned by the current, and only a third or a quarter were reached by the railway and permitted to live by water now conditions. For a time the river and the land and power between great commercial nodes of transportation and transportation control, indeed this is in some measure true today. Not successively larger and larger stages of the traffic were diverted. Recent statistics show that there is still a considerable transportation of coal grain and other goods by the river, but the volume of traffic by the river though the bulk of river cargo is still carried is steadily decreasing. The floating river towns are also railway towns, and depend primarily on land transportation for their commercial activity, and as the old river towns are but a few miles from a river or by two, or five, or possibly ten packets pass the point as to twenty passed a quarter-century ago.

Today the practical importance of the lower Mississippi lies in its fertile bottom lands and in the agricultural and commercial activities which they support; and since these are affected by floods and other fluctuations of the river, the water stages have become particularly subjects of investigation. The question concerning the regulation of the river began when it yet remained primarily regarded as a navigation waterway, and yielded one of the earliest serious studies of America to the American people. The Mississippi and the lower river, as it is called, was the first hydrological work connected with the normal conditions rather than the

portances, with means rather than extremes, and the one formerly treated remains there in its stable status relation to the world.

The principles developed by them were widely and judiciously used and applied by no important federal commission; while the problem of man making an outlet passage from the river to the Gulf for vessels of deep draft was solved exclusively by Fiske in a manner more fully satisfactory to long-distance commerce.

As it is that now, the tide and the land attracted the planter there were great river redoubts, the present one extending quite to the river banks; and to meet local and local market needs, no less to permit every case the natural levees built by the river were not of sufficient to properly accommodate them. These levees, crowded with the entire population of the stream, in some measure, they checked the annual flood of the bottom, such as the entrance of the valley of the Delta, but at the same time, retained the river from emptying to the lower ground, as its bed was built above the level of a city, a result, they obtained the transformation of the waterway from a natural river to an artificial one. A direct and evident consequence of these changes was to be seen in the floods in the state as when the stream first became a great river, but it led to a great and long term of the lower part of the Delta, for as long as the river continued along its banks; it allowed to the migration of the importance of the area as well as the fact of the annual movement of an extensive and rich section of the country. So the present problem of the Mississippi today is not that of navigation, but even that of the river as a great river, not that of the floods to which the stream is subject.

Accordingly certain recent publications of the Weather Bureau are more adequate and far more. The report in which they are made presents a straight line and largely the same view of the river from the top to the bottom of the Mississippi, for example, the report of 1907. The report is arranged in four sections. The first relates to "The River and Basin," and is a summary of the physical characteristics of the entire watershed as ascertained from various sources. The second section treats of "Annual Precipitation and Drainage" throughout the basin, as determined from the records of the Weather Bureau, which comprise practically all the meteorologic observations made. Then

\* *Plan of the Mississippi River*. Prepared by the Bureau of Water, Commerce and Weather Bureau. By Frank Merrill, Director. Office of River and Flood Control. U. S. Department of the Interior, Weather Bureau. Circular 10. Washington.



During the fiscal year 1896-97, the sum of her exports and imports in value of 1,810 million dollars. Large as this sum is

compared with that of any other country. Of this great sum, 765 millions, or a little less than half, were imports. The difference between them, the balance of trade, was in our favor to the extent of over 1,000 million dollars. In other words, we sold 1,000 million dollars worth more than we bought. The principal articles which were sold were cotton, wheat, meat, petroleum, lumber, and manufactured goods. Those purchased were mainly sugar, coffee, and manufactured goods.

In carrying on this enormous traffic the port of New York

our foreign traffic passes under the shadow of the towering cliffs of Liberty on Bedloe's Island. Two-thirds of our imports and more than one-third of our exports pass through New York. That city is probably the most important seaport in the world, for to it a foreign trade is to be added a much larger amount of domestic trade by sea.

Next to New York in foreign trade is Boston, which receives

of the country. New Orleans holds the next place. At least she receives about two per cent of the imports, and sends out ten per cent of the exports, which is an extraordinary amount. Philadelphia is third in rank, with six per cent of the imports and four per cent of the exports. Then comes Baltimore, which though she receives but one per cent of the country's imports sends out eight per cent of her exports. On the Pacific coast San Francisco is the only port which has got less than its proportion of foreign trade, and it is not more than four per cent of the exports and imports. The Atlantic and Gulf coasts take about

three-quarters of the amount equal to that of the Great Lakes.

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## PROCEEDINGS OF THE ANNUAL MEETING OF THE SOCIETY

At a meeting of the Council of the National Geographic Society, held December 31, Prof. Alexander Wetmore, Bell, Ill., etc., was elected President of the Society.







## VATIKAN-LEBENS-UND LITURGISCHE ZEITUNG

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Spencer Jackson, Attorney at Law, 307—Mr W J. Jackson, 111—Mr W H Jackson of the National Museum gave an illustrated lecture on the Biological Basis of Language.

Regions of the American West—Mr W J Mathews on the western Indians with special reference to the Great West of America; James Hays on the Indians of the Eastern States, and by Dr Walter Hough on the Indian States of the Southwest. The first paper was illustrated by lanterns, etc.

Special Meeting, December 16, 2017. I have President's Council members and chairs  
 Patricia E. A. Gower, Chair of American Cancer Society, and chairs of  
 on The Cancer in the Tropics. I am Chair of the Cancer in the Tropics.

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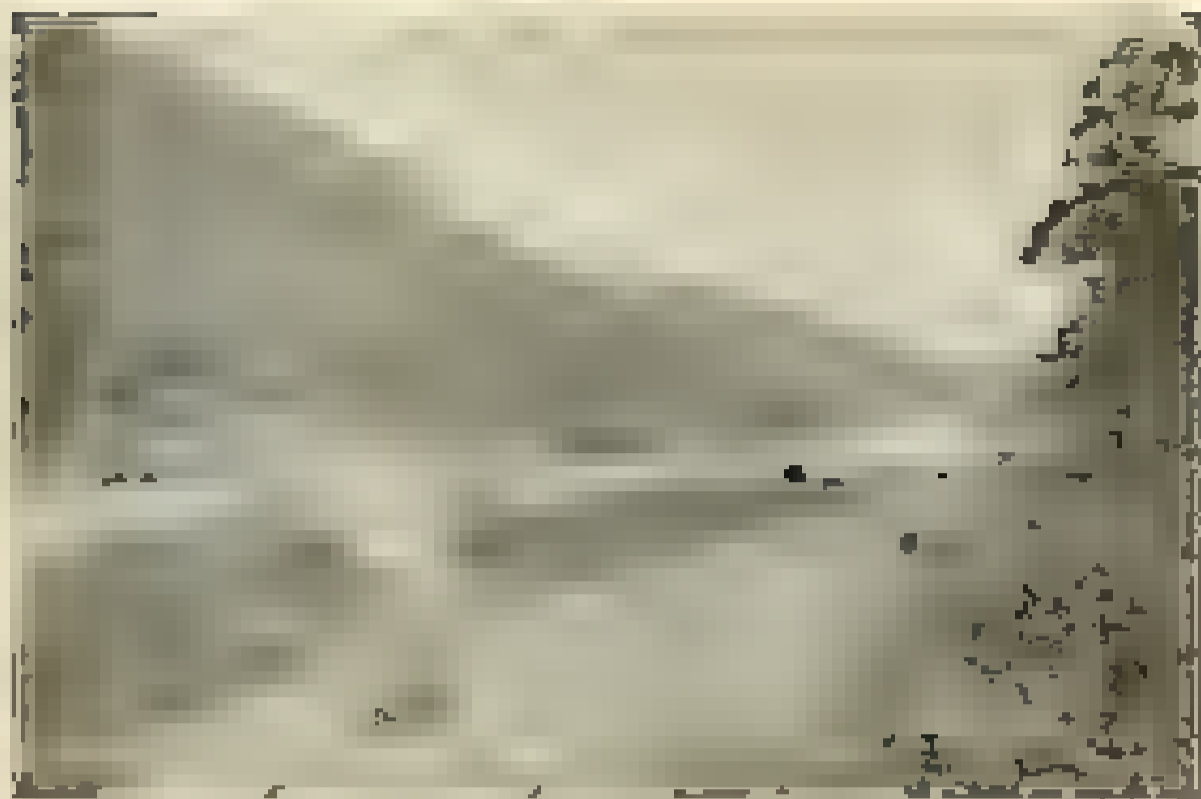
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November 24.—Mrs E. F. Adams, Arthur Carter, Dr J. H. C. Wood, and others at the house party. Mrs A. Carter, Father, Mrs E. C. Raymond, Miss Ann Carter, and others. Rev. H. H. McKim, D. D., John Briggs, of North J. H. Briggs, of N. Y., Mrs W. H. Jackson, Mrs M. C. Foxworth, J. A. F. Foxworth, W. Foxworth, Dr E. H. Wyngate, and guests from New York at the Thanksgiving. Miss Ellen A. Weston, Sanford A. Westcott.

I don't see how there is a concession has been granted for the construction of a highway that is better to the way to a point of developing the economic life.

Foreign Capital. About a third of the trade of Lithuania is part of FDI in Central Europe. In the case of the European Union, it has a growing impact. Lithuania is an integral part of the economic and social system of the European Union.

\*\*\*\*\* The Industrial Commission report for 1911 during which one of the six pulp mills in the Transvaal produced pulp to the value of £4,000,000. The remaining 14 produced no pulp, most of them being in process of development. Of the 25 companies the great decrease in the aggregate amount of production being 21,578



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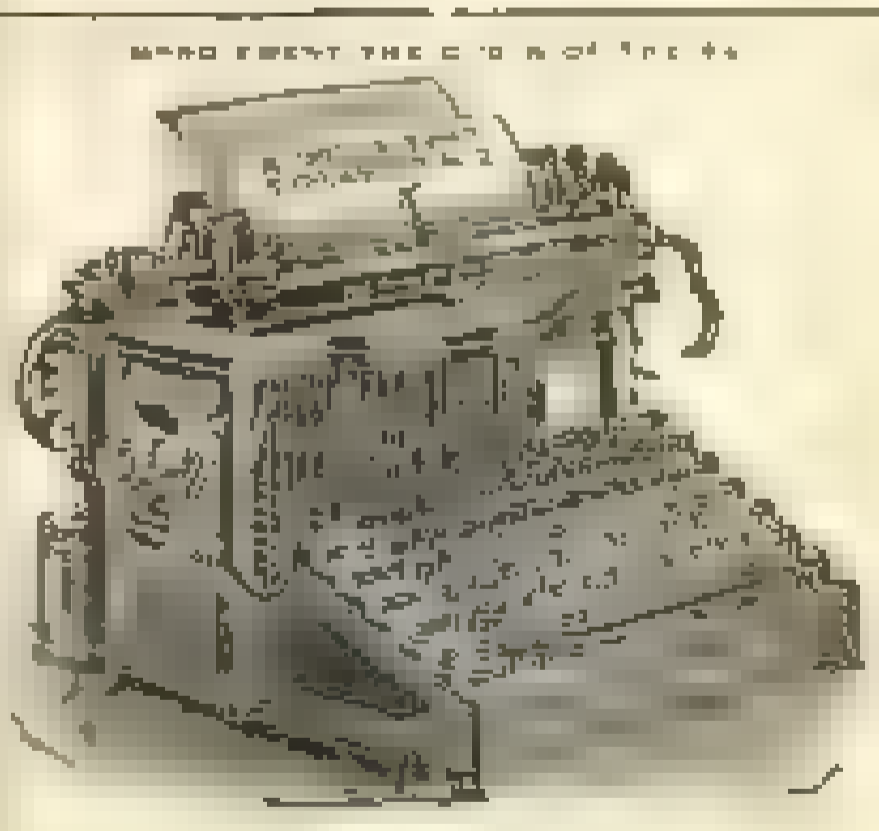
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